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EXAMINER
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RETTA, YEHDEGA

ART UNIT	PAPER NUMBER
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3622

MAIL DATE	DELIVERY MODE
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05/27/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/846,823	<b>Applicant(s)</b> DUNNING ET AL.	
	<b>Examiner</b> Yehdega Retta	<b>Art Unit</b> 3622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-97 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-97 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

This office action is in response to amendments filed February 2, 2009. Applicant amended claims 1, 14, 39, 59 and 72 have been amended. Claims 1-97 are still pending.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4-14, 17-27, 32, 33, 39, 42-45, 48-59, 62-72, 75-85, 91 and 92 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosken U.S Patent No. 6,438,579.

Regarding claim 1, Hosken teaches accepting, in a computer, item selections detected from a plurality of users; generating, in the computer, a log for each user, each log containing identifiers corresponding to detected user item selections (see '579' col. 3 lines 15-33) and (see '377' page 6 par. 1-5). *Hosken provisional '377' teaches the user profile table (user profile, user profile rating) contains identifying information about music items linked to a user, the information in this table can be provided using explicit rating information provided by the user or through implicit observation by the system based on user's actions (see also fig. 1);* accepting, in the computer, a query including at least one query item identifier; scoring, in the computer, each of the user logs, the scoring

Art Unit: 3622

for each user log being responsive to a degree of occurrence of the at least one query item identifier in the user log, a frequency of occurrence of the at least one query item identifier ***in all of the user logs and a query weight for the at least one query item identifier in the query***, so as to generate user log score for each user log based exclusively on detected user item selections and the at least one query item (see '579' col. 12 line 35 to col. 13 line 6). *Hosken '377 also teaches accepting item selection (user choosing an item); generating user log (profile based on implicit and explicit rating data for music provided by users) containing identifiers (vectors) corresponding to detected user item (see pp 5 lines 6-20); accepting a query (selection) and scoring (correlating similarity between the user ratings and other users' rating and determining weigh for each item to give rating weight (see pp 11 line 4 to pp. 12 line 6); determining, in the computer at least one result item, responsive to a frequency of occurrence in at least a subset of the scored user logs, so as to discover at least one relationship based exclusively on detected user item selections and the at least one query item identifier in the user log, a frequency of occurrence of the at least one query item identifier relative to all of the user logs and a query weight for the at least one query item identifier in the query (see '579' col. 15 line 10 to col. 16 line 21, col. 16 lines 24-55); Hosken '377' also teaches being responsive to a degree of occurrence of the item identifier in the user logs (weight for each item determined by multiplying the correlation with the rating to give the correlated rating weight (pp 8 lines 14-25); determining at least one result item (recommendation) (see pp 10-13 and abstract and fig. 2b to fig. 5).*

Hosken also teaches that the explicit information provided by users provides high-confidence information that can be incorporated into the group and individualized

Art Unit: 3622

collaborative data. Hosken teaches that implicit and explicit profiling data is used to provide recommendation (see col. 4 lines 44-67). Hosken discloses that the user may explicitly enter music items and ratings or the system may derive implicit ratings of music items based on system-based observations (detected) of user actions and the system making recommendation based on the input (see col. 14 lines 13-20). It would have been obvious to one of ordinary skill in the art at the time of the invention to implement selected features of Hosken. Omitting Hosken's collection of explicit user profile, by interviewing or surveying users, would cost less to operate the system. Also it would have been obvious to one of ordinary skill in the art to provide recommendation from implicit user profile only to those who are not willing to participate in the interview or survey of Hosken. It is also well settled that the elimination of an element or its functions is an obvious expedient if the remaining elements perform the same functions as before - *In re Karlson*, 136 USPQ 184, 186; 311 F2d 581 (CCPA 1963).

Regarding claims 4-11, Hosken teaches video track or music track, generating track list containing an identifier for each determined result. Hosken teaches recommending music and video and other media content items based on similarity in profile between the user and other users (see '579' col. 12 line 38 to col. 13 line 30, *see* '377' page 6, 12).

Regarding claims 12 and 13, Hosken teaches accepting selection; input specifying an item purchase by user, provided via web page (see '579' col. 4 lines 11-55, col. 5 lines 20-62, *see* '377' page 7 and fig. 3).

Regarding claim 14, Hosken teaches defining a subset of the scored user logs, *the at least one result item being determined from the subset of scored user logs* (see '579'

Art Unit: 3622

col. 15 line 10 to col. 16 line 21, *see '377' page 10 & 11*). Hosken teaches correlating the users in the cluster with the current user and determining items which are highly likely to be liked by the current user (*see '377, page 11 & 12*).

Regarding claim 17, Hosken teaches wherein accepting item selections comprises receiving input provided by a user via an application for playing tracks (*see '579' col. 4 lines 11-15, col. 5 lines 20-62, see '377' page 7, 12 and fig. 3*).

Regarding claims 18-21, 48-53 and 75-79, Hosken teaches wherein accepting a query comprises receiving a user log containing identifiers for a user's item selections; wherein accepting a query comprises receiving a first search term, generating, in the computer, a second search term containing an identifier for each determined result item; providing, in the computer, the second search term as input for a search engine; and adding, in the computer, the second search term to a searchable portion of a document associated with the first search term; periodically uploading the generated log (*see '579' col. 8 lines 38-65, see '377' page 8 & 9*).

Regarding claims 22-27, 54-58 and 80-85 Hosken teaches outputting advertisement related to the determined result (*see '579' col. 8 lines 38-53, col. 16 lines 24-53, see '377' page 7 & 12*).

Regarding claims 32 and 33, Hosken teaches deleting item selected by user from the determining at least one result, ranking the result responsive to the degree of significance (*see col. 16 lines 24-53, see '377' page 12*).

Claims 39 and 59 are rejected as stated above in claim 1.

Claims 42-45 and 62-69 are rejected as stated above in claims 4-11.

Claims 70 and 71 are rejected as stated above in claims 12 and 13.

Art Unit: 3622

Claim 72 is rejected as stated above in claim 14.

Claims 91 and 92 are rejected as stated above in claims 32 and 33.

Claims 2, 3, 28-31, 34-38, 40, 41, 60, 61, 86-90, 93-97 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosken U.S. Patent No. 6,438,579 further in view of Lazarus U.S. Patent No. 6,430,539.

Regarding claims 2, 3, 40, 41, 60, 61 and 86 Hosken does not explicitly teach significance of occurrence being determined by a log of likelihood ratio analysis or a substantial equivalent of a log of likelihood ratio analysis, it is taught by Lazarus (see col. 22 line 19 to col. 25 line 53). Lazarus teaches use of a log of likelihood ratio or an equivalent analysis to determine significance of occurrence (see abstract, col. 4 lines 24-67 and col. 39 lines 13-53). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use Lazarus's predictive model in Hosken's recommendation system since a log of likelihood ratio or equivalent ratio analysis overcomes the problem of small count situations and have much better small count behavior while at the same time retaining the same behavior in the non-small count regions as taught by Lazarus (see col. 24 line 44 to col. 25 line 38).

Regarding claims 28-31, 34-38, 87-90, 93-97, Hosken teaches determining a total number of users, each group containing information detected from implicit use behavior, (see fig. 2 (70, 68, 64)); determining a subset of user, determining the items selected or not selected by the subsets and use of correlation algorithm to determine the correlation between the cluster and the user (see col. 15 line 10 to col. 16 line 21). However Hosken failed to explicitly teach the correlation algorithm as a log likelihood ratio, it is disclosed

Art Unit: 3622

in Lazarus (see abstract, col. 4 lines 24-67 and col. 39 lines 13-53). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use Lazarus's predictive model in Hosken's recommendation system since a log of likelihood ratio or equivalent ratio analysis overcomes the problem of small count situations and have much better small count behavior while at the same time retaining the same behavior in the non-small count regions as taught by Lazarus (see col. 24 line 44 to col. 25 line 38). Hosken discloses that the user may explicitly enter music items and ratings or the system may derive implicit ratings of music items based on system-based observations of user actions and the system making recommendation based on the input (see col. 14 lines 13-20). It would have been obvious to one of ordinary skill in the art at the time of the invention to implement selected features of Hosken. Omitting Hosken's collection of explicit user profile, by interviewing or surveying users, would cost less to operate the system. Also it would have been obvious to one of ordinary skill in the art to provide recommendation from implicit user profile only to those who are not willing to participate in the interview or survey of Hosken.

Claims 15, 16, 46, 47, 73 and 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosken U.S. Patent No. 6,438,579 further in view of Ward U.S. Patent No. 6,526,411.

Regarding claims 15, 16, 46, 47, 73 and 74, Hosken '377' failed to explicitly teach monitoring user behavior by detecting user input ... Ward teaches selecting tracks based on users profiles including the user dislikes for a particular item either by skipping or through rating (**see col. 8 lines 20-40 see also provisional 60165727, page 2-5**). It would have been obvious to one of ordinary skill in the art at the time of applicant's



invention was made to modify Hosken's recommendation system by making the selection of tracks based on how often the track was played or based on when the last time the track was played, as in Ward's, in order to improve the recommendation system by refining user preference.

### ***Response to Arguments***

Applicant's arguments filed February 2, 2009, in regard to the art rejection have been fully considered but they are not persuasive.

Applicant still argues that the examiner provide support for the each portion of Hosken '579 that she is applying to reject the claims of the present application, should the examiner maintains her current rejection. Examiner have already addressed applicant argument and provided support for each claim limitation in both the provisional and patent of Hosken (see "Final Rejection" filed 5/31/07, "Non-Final Rejection" mailed 11/20/07, "Final Rejection" mailed 5/22/08). Examiner would like to point out again that the provisional document does not have to match with the non-provisional document word by word. Therefore, the Examiner does not have to provide a match between Hosken '579 with Hosken '377. As indicated before, according to MPEP "The later-filed application must be an application for a patent for an invention which is also disclosed in the prior application (the parent or original nonprovisional application or provisional application); the disclosure of the invention in the prior application and in the later-filed application **must be sufficient to comply with the requirements of the first paragraph of 35 U.S.C. 112**". "Accordingly, the disclosure of the prior-filed application must provide **adequate support and enablement for the claimed subject matter of the later-filed application in compliance with the requirements of 35 U.S.C. 112, first**

**paragraph**". "Claiming the Benefit of Provisional Applications Under 35 U.S.C. 119(e), the written description and drawing(s) (if any) of the provisional application must adequately support and enable the subject matter claimed in the nonprovisional application that claims the benefit of the provisional application. For a nonprovisional application to be afforded the priority date of the provisional application, **"the specification of the provisional must contain a written description of the invention and the manner and process of making and using it, in such full, clear, concise, and exact terms,' 35 U.S.C. § 112 ¶1, to enable an ordinarily skilled artisan to practice the invention claimed in the nonprovisional application"**. Applicant asserts that "(i)t is clear from MPEP § 2136.03(III) that the burden lies with the Examiner to provide a showing."

There is no requirement for the provisional and the nonprovisional application to match word by word or page by page. The requirement is that the written description of the provisional application must adequately support and enable the subject matter claimed in the nonprovisional application and the specification of the provisional application must contain a written description of the invention and the manner and process of making and using, in such full, clear, concise and exact terms to enable an ordinarily skilled artisan to practice the invention claimed in the nonprovisional application.

The Examiner has already indicated adequate support and enablement, in Hosken's '377 provisional, **for applicant's claimed subject matter**.

If there is any claimed limitation that Examiner did not provided support in Hosken '377, applicant should indicate so rather than comparing Hosken's provisional with Hosken's non-provisional document.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yehdega Retta whose telephone number is (571) 272-6723. The examiner can normally be reached on 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Stamber can be reached on (571) 272-6724. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

YR

/Yehdega Retta/  
Primary Examiner, Art Unit 3622

